EXECUTIVE SUMMARY DRAFT CHESAPEAKE BAY TMDL

Introduction

The U.S. Environmental Protection Agency has released the draft Chesapeake Bay Total Maximum Daily Load (TMDL), a "pollution diet" that will compel sweeping actions to restore the Chesapeake Bay and its vast network of streams, creeks and rivers.

The TMDL was prompted by insufficient restoration progress over the last several decades in the Bay. The TMDL is required under federal law and responds to consent decrees in Virginia and D.C. dating back to the late 1990s. It is also a keystone commitment of a federal strategy to meet President Obama's Executive Order to restore and protect the Bay.

The draft TMDL – the largest ever developed by EPA – includes pollution limits to meet water quality standards in the Bay and its tidal rivers. The TMDL is designed to ensure that all pollution control measures to fully restore the Bay and its tidal rivers are in place by 2025, with 60 percent of the actions completed by 2017. The final TMDL will be established December 31.

On July 1, EPA set draft Bay watershed limits for nitrogen and phosphorus at 187.4 million and 12.5 million pounds per year, respectively, and on Aug. 13 set a range of allowable sediment pollution levels at between 6.1 and 6.7 billion pounds per year. These pollution limits were further divided by jurisdiction and major river basin based on state-of-the-art modeling tools, extensive monitoring data, peer-reviewed science, and close interaction with state partners.

The TMDL is supported by accountability measures to ensure cleanup commitments are met, including short-and long-term benchmarks, a tracking and accounting system, and additional federal backstop measures, if necessary, to spur progress.

EPA incorporated federal backstop measures into the draft TMDL because of deficiencies in the majority of draft pollution reduction plans submitted by the states and District of Columbia in early September. Most of these draft Watershed Implementation Plans (WIPs) did not identify programs to sufficiently reduce pollution to meet TMDL allocations and provide assurance the programs could be implemented. As a result, EPA's backstop measures focus on tightening controls on federally permitted point sources of pollution, such as wastewater treatment plants, large animal agriculture operations and municipal stormwater systems.

EPA proposed more extensive backstop allocations for Pennsylvania, Virginia, New York, Delaware and West Virginia. Only minor changes were made to the plans for Maryland and the District of Columbia. The jurisdictions will have the opportunity to revise and strengthen their plans before final versions are due on November 29. During this time, EPA will engage jurisdictions to share best approaches from the WIPs across the jurisdictions and provide EPA guidance on the most effective pollution controls. When those final WIPs are submitted, EPA will again evaluate the plans to determine if EPA backstop allocations can be replaced with sufficiently improved state commitments.

The release of the draft TMDL begins a 45-day public comment period that will include 18 public meetings in all six watershed states and the District of Columbia. The public meeting

schedule, including registration links for webinars, is at http://www.epa.gov/chesapeakebaytmdl. The website provides instructions for accessing the draft TMDL and providing comments.

TMDL Background

The Clean Water Act sets as a goal that all waters in the United States be "fishable" and "swimmable," and requires states and the District of Columbia to establish water quality standards to measure the health of water bodies relative to these primary environmental goals. The Clean Water Act also requires jurisdictions to develop a list of waterways that are impaired by pollutants and do not meet water quality standards. A Total Maximum Daily Load (TMDL) must be developed for certain waterways on the impaired list. A TMDL is essentially a "pollution diet" that identifies the maximum amount of a pollutant the waterway can receive and still meet water quality standards.

Most of the Chesapeake Bay and its tidal waters are listed as impaired because of excess nitrogen, phosphorus and sediment. These pollutants cause algae blooms that consume oxygen and create "dead zones" where fish and shellfish cannot survive, block sunlight that is needed for underwater grasses, and smother aquatic life on the bottom. The high levels of nitrogen, phosphorus and sediment enter the water from agricultural operations, urban and suburban runoff, wastewater facilities, air pollution and other sources, including septic systems. Despite some reductions in pollution during the past 27 years of restoration due to extensive efforts by federal, state and local governments; non-governmental organizations; and stakeholders in the agriculture, urban/suburban and wastewater sectors, there has been insufficient progress toward meeting the water quality goals for the Chesapeake Bay and its tidal waters.

Since 2000, the seven jurisdictions in the Chesapeake Bay watershed (Delaware, District of Columbia, Maryland, New York, Pennsylvania, Virginia, and West Virginia) and the U.S. Environmental Protection Agency, who along with the Chesapeake Bay Commission are partners in the Chesapeake Bay Program, have been planning for a Chesapeake Bay TMDL.

Since September 2005, the seven jurisdictions have been actively involved in decision-making to develop the TMDL. In the October 2007 meeting of the Chesapeake Bay Program's Principals' Staff Committee, the jurisdictions and EPA agreed that EPA would establish the TMDL. Since 2008, EPA has sent official letters to the jurisdictions detailing all facets of the TMDL, including: schedules for developing the TMDL and pollution reduction plans, EPA's expectations and evaluation criteria for jurisdiction plans to meet the TMDL pollution limits, reasonable assurance for controlling nonpoint source pollution, and backstop actions that EPA could take to ensure progress.

The TMDL also resolves commitments made in a number of consent decrees, Memos of Understanding, and settlement agreements dating back to the late 1990s that address certain waters identified as impaired in the District of Columbia, Delaware, Maryland and Virginia.

Additionally, President Obama issued Executive Order 13508 on May 12, 2009, which directed the federal government to lead a renewed effort to restore and protect the Chesapeake Bay and its watershed. The Chesapeake Bay TMDL is a keystone commitment in the strategy developed by federal agencies to meet the President's Executive Order.

More than 40,000 TMDLs have been completed across the United States, but the Chesapeake Bay TMDL will be the largest and most complex thus far – it is designed to achieve significant

reductions in nitrogen, phosphorus and sediment pollution throughout a 64,000-square-mile watershed that includes the District of Columbia and large sections of six states. The TMDL is actually a combination of 92 smaller TMDLs for individual Chesapeake Bay tidal segments and includes pollution limits that are sufficient to meet state water quality standards for dissolved oxygen, water clarity, underwater grasses and chlorophyll-*a*, an indicator of algae levels. It is important to note that the pollution controls employed to meet the TMDL will also have significant benefits for water quality in the tens of thousands of streams, creeks and rivers throughout the region. EPA will establish the final Chesapeake Bay TMDL, after considering public comments and additional input from the jurisdictions, by December 31, 2010.

Developing the Chesapeake Bay TMDL

Development of the Chesapeake Bay TMDL required knowledge of the stream flow characteristics of the watershed, sources of pollution, distribution and acreage of the various land uses, appropriate best management practices, the transport and fate of pollutants, precipitation data and many other factors. The TMDL uses a series of models, calibrated to decades of water quality and other data, and refined based on input from dozens of Chesapeake Bay scientists. Modeling is an approach that uses observed and simulated data to replicate what is occurring in the environment, and was a critical and valuable tool to develop the Chesapeake Bay TMDL.

The development of the TMDL consisted of three major steps.

- 1. EPA provided allocations to the jurisdictions and major basins for nitrogen, phosphorus and sediment.
- 2. Jurisdictions developed draft Phase 1 Watershed Implementation Plans to achieve those basin-jurisdiction allocations. In these WIPs, jurisdictions made decisions on how to further sub-allocate the basin-jurisdiction loadings to various individual point sources and a number of point and nonpoint source sectors.
- 3. EPA evaluated the draft WIPs and where deficiencies existed, EPA provided backstop allocations in the draft TMDL that consisted of a hybrid of the jurisdiction WIP allocations modified by EPA allocations for some source sectors to fill gaps in the WIPs.

These draft TMDL loadings to the basin-jurisdictions are provided in table ES-1. These loadings were determined using the best peer-reviewed science and through extensive collaboration with the jurisdictions and informed by the Watershed Implementation Plans.

Table ES-1. Chesapeake Bay TMDL watershed nutrient and sediment draft allocations by jurisdiction and by major river basin [proposed standards]

Potomac 4.72 0.42 233.9	urisdiction	Basin	Nitrogen draft allocations (million lbs/year)	Phosphorus draft allocations (million lbs/year)	Sediment draft allocations (million lbs/year)
Potomac	Pennsylvania	Susquehanna	71.74	2.31	1,758.20
Western Shore		Potomac	4.72	0.42	233.93
PA Total 76.77 2.74 2,013.4		Eastern Shore	0.28	0.01	21.12
Naryland Susquehanna 1.08 0.05 62.94		Western Shore	0.02	0.001	0.37
Eastern Shore		PA Total	76.77	2.74	2,013.62
Western Shore	Maryland	Susquehanna	1.08	0.05	62.94
Patuxent 2.85 0.21 90.12 Potomac 15.70 0.90 682.3 MD Total 39.09 2.72 1,175.4 Virginia Eastern Shore 1.21 0.16 10.91 Potomac 17.46 1.47 810.0 Rappahannock 5.84 0.90 688.5 York 5.41 0.54 107.0 James 23.48 2.34 852.7 VA Total 53.40 5.41 2,469.1 District of Columbia Potomac 2.32 0.12 11.16 DC Total 2.32 0.12 11.16 DC Total 8.23 0.52 292.9 NY Total 8.23 0.52 292.9 Delaware Eastern Shore 2.95 0.26 57.82 West Virginia Potomac 4.67 0.74 248.1 James 0.02 0.01 16.65 WV Total 4.68 0.75 264.7 Total Basin/Jurisdiction Draft Allocation 187.44 12.52 6,285 Atmospheric Deposition Draft Allocation 187.44 12.52 6,285 Atmospheric Deposition Draft Allocation 15.70		Eastern Shore	9.71	1.09	169.70
Potomac 15.70 0.90 682.3		Western Shore	9.74	0.46	170.38
MD Total 39.09 2.72 1,175.25		Patuxent	2.85	0.21	90.12
MD Total 39.09 2.72 1,175. Virginia Eastern Shore 1.21 0.16 10.91 Potomac 17.46 1.47 810.0 Rappahannock 5.84 0.90 688.5 York 5.41 0.54 107.0 James 23.48 2.34 852.7 VA Total 53.40 5.41 2,469. District of Columbia Potomac 2.32 0.12 11.16 New York Susquehanna 8.23 0.52 292.9 NY Total 8.23 0.52 292.9 Delaware Eastern Shore 2.95 0.26 57.82 West Virginia Potomac 4.67 0.74 248.1 James 0.02 0.01 16.65 WV Total 4.68 0.75 264.7 Total Basin/Jurisdiction Draft Allocation 187.44 12.52 6,285. Atmospheric Deposition Draft Allocation 15.70		Potomac	15.70	0.90	682.33
Virginia Eastern Shore 1.21 0.16 10.90 Potomac 17.46 1.47 810.0 Rappahannock 5.84 0.90 688.5 York 5.41 0.54 107.0 James 23.48 2.34 852.7 VA Total 53.40 5.41 2,469.0 District of Columbia Potomac 2.32 0.12 11.16 New York Susquehanna 8.23 0.52 292.9 NY Total 8.23 0.52 292.9 Delaware Eastern Shore 2.95 0.26 57.82 West Virginia Potomac 4.67 0.74 248.1 James 0.02 0.01 16.65 WV Total 4.68 0.75 264.7 Total Basin/Jurisdiction Draft Allocation 187.44 12.52 6,285. Atmospheric Deposition Draft Allocation 15.70		MD Total	39.09	2.72	1,175.47
Potomac 17.46 1.47 810.0 Rappahannock 5.84 0.90 688.5 York 5.41 0.54 107.0 James 23.48 2.34 852.7 VA Total 53.40 5.41 2,469.1 11.16 DC Total 2.32 0.12 11.16 DC Total 2.32 0.12 11.16 New York Susquehanna 8.23 0.52 292.9 NY Total 8.23 0.52 292.9 Delaware Eastern Shore 2.95 0.26 57.82 DE Total 2.95 0.26 0.26 57.82 DE Total 2.95 0.26 0.26 DE Total 2.95 0.26 DE Total 2.95 0.26 DE	Virginia	Eastern Shore	1.21	0.16	10.91
York 5.41 0.54 107.0 James 23.48 2.34 852.7 VA Total 53.40 5.41 2,469.2 District of Columbia Potomac 2.32 0.12 11.16 DC Total 2.32 0.12 11.16 New York Susquehanna 8.23 0.52 292.9 NY Total 8.23 0.52 292.9 Delaware Eastern Shore 2.95 0.26 57.82 DE Total 2.95 0.26 57.82 West Virginia Potomac 4.67 0.74 248.1 James 0.02 0.01 16.65 WV Total 4.68 0.75 264.7 Total Basin/Jurisdiction Draft Allocation 187.44 12.52 6,285. Atmospheric Deposition Draft Allocation 15.70		Potomac	17.46	1.47	810.07
James 23.48 2.34 852.7 VA Total 53.40 5.41 2,469.1 District of Columbia Potomac 2.32 0.12 11.16 DC Total 2.32 0.12 11.16 DC Total 2.32 0.52 292.9 NY Total 8.23 0.52 292.9 NY Total 8.23 0.52 292.9 Delaware Eastern Shore 2.95 0.26 57.82 DE Total 2.95 0.26 57.82 West Virginia Potomac 4.67 0.74 248.1 James 0.02 0.01 16.65 WV Total 4.68 0.75 264.7 Total Basin/Jurisdiction Draft Allocation 187.44 12.52 6,285. Atmospheric Deposition Draft Allocation 15.70		Rappahannock	5.84	0.90	688.51
VA Total 53.40 5.41 2,469.25 District of Columbia Potomac 2.32 0.12 11.16 DC Total 2.32 0.12 11.16 DC Total 2.32 0.12 11.16 New York Susquehanna 8.23 0.52 292.9 NY Total 8.23 0.52 292.9 Delaware Eastern Shore 2.95 0.26 57.82 DE Total 2.95 0.26 57.82 West Virginia Potomac 4.67 0.74 248.1 James 0.02 0.01 16.65 WV Total 4.68 0.75 264.7 Total Basin/Jurisdiction Draft Allocation 187.44 12.52 6,285. Atmospheric Deposition Draft Allocation 15.70		York	5.41	0.54	107.09
District of Columbia Potomac 2.32 0.12 11.16 DC Total 2.32 0.12 11.16 New York Susquehanna 8.23 0.52 292.9 NY Total 8.23 0.52 292.9 Delaware Eastern Shore 2.95 0.26 57.82 DE Total 2.95 0.26 57.82 West Virginia Potomac 4.67 0.74 248.1 James 0.02 0.01 16.65 WV Total 4.68 0.75 264.7 Total Basin/Jurisdiction Draft Allocation 187.44 12.52 6,285. Atmospheric Deposition Draft Allocation 15.70		James	23.48	2.34	852.77
DC Total 2.32 0.12 11.16		VA Total	53.40	5.41	2,469.35
New York Susquehanna 8.23 0.52 292.9 NY Total 8.23 0.52 292.9 Delaware Eastern Shore 2.95 0.26 57.82 DE Total 2.95 0.26 57.82 West Virginia Potomac 4.67 0.74 248.1 James 0.02 0.01 16.65 WV Total 4.68 0.75 264.7 Total Basin/Jurisdiction Draft Allocation 187.44 12.52 6,285. Atmospheric Deposition Draft Allocation 15.70	District of Columbia	Potomac	2.32	0.12	11.16
NY Total 8.23 0.52 292.9		DC Total	2.32	0.12	11.16
NY Total 8.23 0.52 292.9 Delaware Eastern Shore 2.95 0.26 57.82 DE Total 2.95 0.26 57.82 West Virginia Potomac 4.67 0.74 248.1 James 0.02 0.01 16.63 WV Total 4.68 0.75 264.7 Total Basin/Jurisdiction Draft Allocation 187.44 12.52 6,285. Atmospheric Deposition Draft Allocation 15.70	New York	Susquehanna	8.23	0.52	292.96
DE Total 2.95 0.26 57.82		NY Total	8.23	0.52	292.96
West Virginia Potomac 4.67 0.74 248.1 James 0.02 0.01 16.65 WV Total 4.68 0.75 264.7 Total Basin/Jurisdiction Draft Allocation 187.44 12.52 6,285. Atmospheric Deposition Draft Allocation 15.70	Delaware	Eastern Shore	2.95	0.26	57.82
James 0.02 0.01 16.65 WV Total 4.68 0.75 264.7 Total Basin/Jurisdiction Draft Allocation 187.44 12.52 6,285. Atmospheric Deposition Draft Allocation 15.70		DE Total	2.95	0.26	57.82
WV Total 4.68 0.75 264.7 Total Basin/Jurisdiction Draft Allocation 187.44 12.52 6,285. Atmospheric Deposition Draft Allocation 15.70	West Virginia	Potomac	4.67	0.74	248.11
Total Basin/Jurisdiction Draft Allocation 187.44 12.52 6,285. Atmospheric Deposition Draft Allocation 15.70		James	0.02	0.01	16.65
Atmospheric Deposition Draft Allocation 15.70		WV Total	4.68	0.75	264.76
1 1	Total Basin/Jurisdiction Draft Allocation		187.44	12.52	6,285.14
T (1 D) (1 D) (All) () () () () () () () () ()	<u> </u>		15.70		
Total Basinwide Draft Allocation 203.14 12.52 6,285.	Total Basinwide Draft Allocation		203.14	12.52	6,285.14

a. Cap on atmospheric deposition loads direct to Chesapeake Bay and tidal tributary surface waters to be achieved by federal air regulations through 2020.

Since nitrogen and phosphorus loadings from all parts of the Bay watershed have an impact on most segments of the Bay, it was necessary for EPA to allocate the nitrogen and phosphorus loadings in an equitable manner to the states and basins. There were 3 basic guides that were used to divide these loads.

• Allocated loads should protect living resources of the Bay and its tidal tributaries and result in all segments of the Bay mainstem, tidal tributaries and embayments meeting

- water quality standards for dissolved oxygen, chlorophyll a, water clarity and underwater grasses.
- Tributary basins that contribute the most to the Bay water quality problems must do the most to resolve those problems (on a pound per pound basis).
- All tracked and reported reductions in nitrogen, phosphorus and sediment loads are credited toward achieving final assigned loads.

In addition, EPA is committing to reducing air deposition of nitrogen to the tidal waters of the Chesapeake Bay to 15.7 million pounds per year. The reductions will be achieved through implementation of federal air regulations during the coming years.

To insure that these pollutant loadings will attain and maintain water quality standards, the TMDL calculations were developed to account for critical environmental conditions a waterway would face, future growth, and seasonal variation. An implicit margin of safety was also included in the TMDL.

The TMDL is designed to ensure that by 2025 all practices necessary to fully restore the Bay and its tidal river are in place, with 60 percent of the actions taken by 2017.

As mentioned above, a TMDL must be based on achieving established state water quality standards. In the case of the Bay TMDL, as the TMDL is being developed, the state water quality standards are being proposed for modification. So the loadings allocated to the states as identified above and the state WIPs are based on loadings to achieve the proposed state standards.

However, the Chesapeake Bay TMDL document also provides allocations for attaining the current water quality standards. In order to achieve the current standards, the allocations happen to be more stringent that the allocations identified above. This set of TMDL allocations are important if the state standards are not modified before the completion of the Bay TMDL.

Furthermore, this TMDL provides information on the pollution control levels for a full backstop TMDL, in case such controls are needed in the final TMDL.

EPA expects that the water quality standards and state WIPs are likely to change before this TMDL is finalized. So offering information on possible TMDL loadings under each of these options provides EPA with the flexibility, informed by the final WIPs and public comment, to finalize this TMDL based on the relevant information at the time the TMDL is finalized. And the final TMDL allocations could range from full WIP based loads to full backstop loads, depending on the strength of the final state WIPs.

Accountability and Goals

The Chesapeake Bay TMDL is unique because of the extensive measures included to ensure accountability for reducing pollution and meeting deadlines for progress. The TMDL will be implemented using an accountability framework that includes Watershed Implementation Plans (WIPs), two-year milestones, EPA's tracking and assessment of restoration progress and, as necessary, specific federal backstop actions if the jurisdictions do not meet their commitments. The accountability framework is being established in part to provide demonstration of the reasonable assurance provisions of the Chesapeake Bay TMDL pursuant to both the Clean Water Act and the Chesapeake Bay Executive Order, but is not part of the TMDL itself.

When EPA establishes or approves a TMDL that allocates pollutant loads to both point and nonpoint sources, it determines whether there is a "reasonable assurance" that the nonpoint source load allocations will be achieved and water quality standards will be attained. Reasonable assurance for the Chesapeake Bay TMDL is provided by the numerous federal, state and local regulatory and non-regulatory programs identified in the accountability framework that EPA believes will result in the necessary point and nonpoint source controls and pollutant reduction programs. The most prominent program is the CWA's National Pollutant Discharge Elimination System (NPDES) permit program that regulates point sources throughout the nation. Many nonpoint sources are not covered by a similar federal permit program; as a result, financial incentives and other voluntary programs are used to achieve nonpoint source reductions. These federal tools are supplemented by a variety of state regulatory and voluntary programs and other commitments of the federal government set forth in the Executive Order strategy and identified in the accountability framework discussed above.

Beginning in 2012, jurisdictions (including the federal government) are expected to develop twoyear milestones to track progress toward reaching the TMDL's goals. In addition, the milestones will demonstrate the effectiveness of the jurisdictions' WIPs by identifying specific near-term pollutant reduction controls and a schedule for implementation (see next section for further description of WIPs). EPA will review these two-year milestones and evaluate whether they are sufficient to achieve necessary pollution reductions and, through the use of a Bay Tracking and Accountability System, determine if milestones are met.

If a jurisdiction's plans are inadequate or its progress is insufficient, EPA can invoke a suite of backstop actions to ensure pollution reductions. These include expanding coverage of NPDES permits to sources that are currently unregulated, increasing oversight of state-issued NPDES permits, requiring additional pollution reductions from point sources such as wastewater treatment plants, increasing federal enforcement and compliance in the watershed, prohibiting new or expanded pollution discharges, redirecting EPA grants, and revising water quality standards to better protect local and downstream waters.

Watershed Implementation Plans

The cornerstone of the accountability framework is the jurisdictions' development of Watershed Implementation Plans (WIPs), which serve as roadmaps for how and when a jurisdiction plans to meet its pollution allocations under the TMDL. In their draft Phase I WIPs, the jurisdictions were expected to subdivide the Bay TMDL allocations among pollutant sources; evaluate their current legal, regulatory, programmatic and financial tools available to implement the allocations; identify and rectify potential shortfalls in attaining the allocations; describe mechanisms to track and report implementation activities; provide alternative approaches; and outline a schedule for implementation.

EPA provided the jurisdictions with detailed expectations for WIPs in November 2009 and April 2010. To assist with WIP preparation, EPA provided considerable technical and financial assistance. Also last year, EPA announced target loads to allow the jurisdictions to begin developing WIPs. EPA worked with the jurisdictions to evaluate various "what if" scenarios – combinations of practices and programs that could achieve their pollution allocations.

After the draft Phase I WIP submittal deadline of September 1, a team of EPA sector experts conducted an intense evaluation process, comparing the submissions with EPA expectations. Two goals were paramount in the EPA WIP review: achieving the basin-jurisdiction pollution allocations and providing a high level of assurance that reductions would be achieved, particularly for non-permitted sources like runoff from agricultural lands and currently unregulated stormwater from urban and suburban lands.

The EPA evaluation concluded that the pollution controls identified in two of the seven jurisdictions' WIPs could meet nitrogen and phosphorus allocations and five of the seven jurisdictions' WIPs could meet sediment allocations for the jurisdiction as a whole. The evaluation by jurisdiction is:

- Maryland: Some deficiencies Meets overall statewide allocations for nitrogen (at allocation), phosphorus (at allocation) and sediment (at allocation), but several individual river basins exceed the allocations for nitrogen, phosphorus or sediment.
- **District of Columbia:** Some deficiencies Does not meet the sediment allocation (25 percent over), but does meet for nitrogen (5 percent under) and phosphorus (3 percent under).
- **Delaware:** Serious deficiencies Does not meet allocations for nitrogen (17 percent over) and phosphorus (8 percent over), but does meet allocations for sediment (20 percent under).
- **New York:** Serious deficiencies Does not meet allocations for nitrogen (15 percent over) and phosphorus (14 percent over), but does meet allocations for sediment (17 percent under.
- **Pennsylvania:** Serious deficiencies Does not meet for phosphorus (11 percent over), and for sediment (1 percent over), but does meet allocations for nitrogen (at allocation).
- **Virginia:** Serious deficiencies Does not meet allocations for nitrogen (6 percent over) and phosphorus (7 percent over), but does meet allocations for sediment (12 percent under).
- **West Virginia:** Serious deficiencies Does not meet allocation for nitrogen (18 percent over) or sediment (38 percent over), but does meet the allocation for phosphorus (6 percent under).

The EPA evaluation also concluded that none of the seven WIPs provided sufficient reasonable assurance that pollution controls identified could actually be implemented to achieve the nitrogen, phosphorus and sediment reduction targets by 2017 or 2025. The shortfalls of the WIPs, which varied by jurisdiction, included:

- Vague or no strategy for filling recognized program or resources gaps
- Few enforceable or otherwise binding commitments
- Discrepancies between implementation levels in model input decks and strategies described in WIP
- Reliance on pollution trading programs but no commitment to adopt critical trading drivers such as new regulations
- Few dates for key actions and program-building milestones

EPA Backstop Allocations

Once EPA evaluated a WIP and found shortfalls in pollution loading reductions and/or assurance that reductions would be achieved, EPA included only the parts of the WIP that it determined to

be adequate and appropriate in its TMDL allocation. EPA then determined how to make up that shortfall and/or insufficient amount of reasonable assurance for the remainder of the allocation. EPA considered varying levels of federal backstop allocations that adjusted loads delivered to the Bay to ensure water quality standards are met. The result is a draft TMDL that merges jurisdictions' WIP allocations with varying degrees of federal backstop allocations in all seven jurisdictions, as well identification of additional federal actions that EPA is prepared to take if jurisdictions do not achieve milestones on schedule. For the most part in making the hybrid allocations, EPA decreased the allocations to the point sources (over which EPA has or could assert regulatory control) and increased the load allocations to unregulated nonpoint sources. EPA identified backstop allocations at three levels:

- **Minor:** EPA adjusted WIP pollution sector allocations to achieve the jurisdiction's overall and major river basin nitrogen, phosphorus and sediment allocations.
- Moderate: WIP aggregate point source allocations for stormwater and animal agriculture (CAFO) sectors were adjusted to equate to the best approach that was proposed and determined adequate in other jurisdiction WIPs. More stringent wasteload allocations were applied to point source wastewater sources (regulated via federal programs); other nonpoint source allocations increased as feasible if there was insufficient assurance that reductions would be achieved.
- High: WIP aggregate allocations for point source stormwater and animal agriculture
 sectors were adjusted downward to equate to the best approach that was proposed and
 determined adequate in other jurisdiction WIPs; Very stringent wastewater allocations
 were applied to point source wastewater sources based on limit of technology
 concentrations (regulated via federal programs); other nonpoint source allocations
 increased as feasible if there was insufficient assurance that reductions would be
 achieved.

Backstop allocations focus on areas where EPA has the federal authority to control pollution allocations through NPDES permits. These backstops involve substituting a jurisdiction's proposed point source allocations with more stringent EPA "backstop allocations" for point sources including wastewater treatment plants, stormwater permits, and animal agriculture operations. The draft TMDL reflects the following level of backstops for each jurisdiction:

- Maryland: Minor-level backstop allocations primarily for Maryland's nonpoint source load allocations to meet nitrogen, phosphorus and sediment allocations in each major basin within Maryland. No changes to point source wasteload allocations that would affect NPDES permit conditions.
- **District of Columbia: Minor-level backstop allocations** to District of Columbia's wasteload allocations for urban stormwater so that the District meets upper range of sediment allocation. EPA will ensure that all allocations, including sediment, are met through the NPDES permits issued within the District.

- Virginia: Moderate-level backstop allocations for Virginia point sources
 - Wastewater treatment plants: 4 mg/L TN and .3 mg/L TP and design flow for significant municipal plants consistent with most aggressive WIP proposal (Maryland ENR Strategy).
 - MS4s: 50 percent of urban MS4 lands meet aggressive performance standard through retrofit/ redevelopment; 50 percent of unregulated land treated as regulated, so that 25 percent of unregulated land meets aggressive performance standard; designation as necessary.
 - Construction: Erosion and sediment control on all lands subject to Construction General Permit.
 - CAFO production areas: Waste management, barnyard runoff control, mortality composting. Precision feed management for all animals. Same standards apply to AFOs not subject to CAFO permit except no feed management on dairies; designation as necessary.
 - o Additional adjustments to agriculture nonpoint sources as necessary to exactly meet nitrogen, phosphorus and sediment allocations.

• **Delaware: High-level backstop allocations** for Delaware point sources

- Wastewater treatment plants: limit of technology (3 mg/L TN and .1 mg/L TP) and design flow for significant municipal plants.
- MS4s: 50 percent of urban MS4 lands meet aggressive performance standard through retrofit/ redevelopment; 50 percent of unregulated land treated as regulated, so that 25 percent of unregulated land meets aggressive performance standard; designation as necessary.
- Construction: Erosion and sediment control on all lands subject to Construction General Permit.
- CAFO production areas: Waste management, barnyard runoff control, mortality composting. Precision feed management for all animals. Same standards apply to AFOs not subject to CAFO permits except no feed management on dairies; designation as necessary.
- Additional reductions from agricultural nonpoint sources necessary to meet nitrogen and phosphorus allocations that EPA will ensure occurs through additional federal backstop actions.

• New York: High-level backstop allocations for New York point sources

- Wastewater treatment plants: limit of technology (3 mg/L TN and .1 mg/L TP) and design flow for significant municipal plants.
- MS4s: 50 percent of urban MS4 lands meet aggressive performance standard through retrofit/ redevelopment; 50 percent of unregulated land treated as regulated, so that 25 percent of unregulated land meets aggressive performance standard; designation as necessary.
- Construction: Erosion and sediment control on all lands subject to Construction General Permit.
- CAFO production areas: Waste management, barnyard runoff control, mortality composting. Precision feed management for all animals. Same standards apply to AFOs not subject to CAFO permits except no feed management on dairies; designation as necessary.

- Additional reductions from agricultural nonpoint sources necessary to meet nitrogen, phosphorus and sediment allocations that EPA will ensure occurs through additional federal backstop actions.
- Finer scale wasteload and load allocations (same level of detail as tidal states) to ensure NPDES permits will be consistent with Chesapeake Bay TMDL wasteload allocations.

• **Pennsylvania: High-level backstop allocations** for Pennsylvania point sources

- Wastewater treatment plants: limit of technology (3 mg/L TN and .1 mg/L TP) and design flow for significant municipal plants.
- MS4s: 50 percent of urban MS4 lands meet aggressive performance standard through retrofit/ redevelopment; 50 percent of unregulated land treated as regulated, so that 25 percent of unregulated land meets aggressive performance standard; designation as necessary.
- Construction: Erosion and sediment control on all lands subject to Construction General Permit.
- CAFO production areas: Waste management, barnyard runoff control, mortality composting. Precision feed management for all animals. Same standards apply to AFOs not subject to CAFO permits except no feed management on dairies; designation as necessary.
- Load from point source reductions redistributed to forest, septic, and agriculture sources as possible while still meeting nitrogen, phosphorus and sediment allocations.
- Finer scale wasteload and load allocations (same level of detail as tidal states) to ensure NPDES permits will be consistent with Chesapeake Bay TMDL wasteload allocations.

• West Virginia: High-level backstop allocations for West Virginia point sources

- Wastewater treatment plants: limit of technology (3 mg/L TN and .1 mg/L TP) and design flow for significant municipal plants.
- MS4s: 50 percent of urban MS4 lands meet aggressive performance standard through retrofit/ redevelopment; 50 percent of unregulated land treated as regulated, so that 25 percent of unregulated land meets aggressive performance standard; designation as necessary.
- Construction: Erosion and sediment control on all lands subject to Construction General Permit.
- CAFO production areas: Waste management, barnyard runoff control, mortality composting. Precision feed management for all animals. Same standards apply to AFOs not subject to CAFO permits except no feed management on dairies; designation as necessary.
- Additional reductions from agricultural nonpoint sources necessary to meet July 1 and August 13 nitrogen, phosphorus and sediment allocations that EPA will ensure occurs through additional federal backstop actions.
- Finer scale wasteload and load allocations (same level of detail as tidal states) to ensure NPDES permits will be consistent with Chesapeake Bay TMDL wasteload allocations.

The jurisdictions are encouraged to revise and strengthen their draft Phase I WIPs before final versions are due November 29 to meet the basin-state pollution allocations and provide reasonable assurance the allocations will be achieved. During this time, EPA will engage jurisdictions to share best approaches from the WIPs across the jurisdictions and provide EPA guidance on the most effective pollution controls. When final Phase I WIPs are submitted, EPA will again evaluate the plans to determine if EPA backstop allocations can be replaced with sufficiently improved state commitments.

In 2011, the jurisdictions are expected to submit Phase II WIPs that allocate the pollutant loads on a geographically smaller scale. Phase III WIPs in 2017 are expected to be designed to provide additional detail of restoration actions beyond 2017 and ensure that the 2025 goals are met.

Public Participation

The release of the draft Chesapeake Bay TMDL on September 24, 2010 began a 45-day public comment period that concludes on November 8, 2010. During the public comment period, there are 18 public meetings in all six watershed states and the District. A full public meeting schedule, including registration links for an online broadcast in each jurisdiction, is available at http://www.epa.gov/chesapeakebaytmdl. The website also provides a link for accessing and formally commenting on the draft TMDL.

The TMDL is available for viewing at EPA Region III, 1650 Arch Street, Philadelphia, PA 19103 with arrangements made in advance with the Region 3 library (215-814-5254 or library-reg3@epa.gov), EPA Chesapeake Bay Program Office at 410 Severn Avenue Suite 112, Annapolis, MD 21403 (Contact Debbie Embleton 410-267-9856 or Embleton.debbie@epa.gov) or EPA Docket Center, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC (Docket Number EPA-R03-OW-2010-0736 and reading room phone number (202) 566-1744).

Options for comment are:

- Electronically, visit: www.regulations.gov. Docket ID No. EPA-R03-OW-2010-0736
- In writing, mail to: Water Docket, EPA, Mail code: 2822T, 1200 Pennsylvania Ave., NW., Washington, D.C., 20460.
- By hand, drop off from 8:30 a.m. 4:30 p.m.: EPA Docket Center Public Reading Room, EPA Headquarters West, Room 3340, 1301 Constitution Ave., NW, Washington, D.C.